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23446 7590 05/04/2010

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CHICAGO, IL 60661

EXAMINER	
MEHTA, PARIKHA SOLANKI	
ART UNIT	PAPER NUMBER
3737	

DATE MAILED: 05/04/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,319	07/09/2003	Heidi D. Zhang	133860-2 (MHM 14882US02)	1891

TITLE OF INVENTION: ULTRASOUND BREAST SCREENING DEVICE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	08/04/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	NO	$1510	$300	$0	$1810	08/04/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
MEHTA, PARIKHA SOLANKI	3737	600-459000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1758 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1758 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/616,319	ZHANG ET AL.	
	Examiner	Art Unit	
	PARIKHA S. MEHTA	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the BPAI decision of 2/24/10*.

2. ☒ The allowed claim(s) is/are *1,3-24,26-53,56,59-62 and 64-70*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph Butscher on 30 March 2010.

The application has been amended as follows:

1. (Currently amended) An ultrasound breast imaging assembly comprising:

first and second compression plates that are angled with respect to one another;

a breast compression area defined between said first and second compression plates;

at least one pivot assembly allowing relative motion between said first and second compression plates, said at least one pivot assembly being operatively connected to each of said first and second compression plates, wherein said at least one pivot assembly comprises first and second pivot assemblies, wherein said first pivot assembly is operatively connected to said first compression plate, and said second pivot assembly is operatively connected to said second compression plate; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said first and second compression plates, said ultrasound probe being configured to translate over said one of said first and second compression plates.

2. (Canceled)

3. (Original) The ultrasound breast imaging assembly of claim 1, wherein one of said first and second compression plates remains in a fixed orientation with respect to the other.

4. (Original) The ultrasound breast imaging assembly of claim 1, wherein the relative motion between said first and second compression plates occurs over an arcuate path.

5. (Original) The ultrasound breast imaging assembly of claim 1, wherein said at least one pivot assembly comprises a spring member that connects said first compression plate to said second compression plate.

6. (Currently amended) The ultrasound breast imaging assembly of claim 1, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, said ~~first compression plate being operatively connected to a~~ first pivot assembly~~, which~~ is in turn positioned on a first portion of said upright member, and said ~~second compression plate being operatively connected to a~~ second pivot assembly~~, which~~ is in turn positioned on a second portion of said upright member.

7. (Currently amended) The ultrasound breast imaging assembly of claim 1, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, said ~~first compression plate being operatively connected to a~~ first pivot assembly~~, which~~ is in turn connected to a first extension member, which is in turn translationally secured to said upright member.

8. (Original) The ultrasound breast imaging assembly of claim 7, wherein said second compression plate remains in a fixed orientation.

9. (Currently amended) The ultrasound breast imaging assembly of claim 7, wherein said ~~second compression plate is operatively connected to a~~ second pivot assembly~~, which~~ is in turn connected to a second extension member, which is in turn translationally secured to said upright member.

10. (Original) The ultrasound breast imaging assembly of claim 7, wherein said first extension member is perpendicular to said upright member, and wherein said first extension member translates along said upright member while said first and second compression plates remain angled with respect to one another, wherein the angle between the first and second compression plates changes when a breast is compressed therebetween.

11. (Original) The ultrasound breast imaging assembly of claim 1, wherein said first and second compression plates are configured to compress a breast in said breast compression area so that said probe may image the breast, and wherein said first and second compression plates remain angled with respect to

one another, wherein the angle between the first and second compression plates changes upon the relative motion between the first and second compression plates.

12. (Original) The ultrasound breast imaging assembly of claim 1, wherein said first and second compression plates are radiolucent.

13. (Original) The ultrasound breast imaging assembly of claim 1, wherein said first and second compression plates are configured to adequately contact the breast for imaging even though the breast is not substantially flattened.

14. (Original) The ultrasound breast imaging assembly of claim 1, wherein said ultrasound breast imaging assembly is used in conjunction with an x-ray mammography system.

15. (Original) The ultrasound breast imaging assembly of claim 14, wherein said ultrasound breast imaging assembly is secured to a portion of said x-ray mammography system.

16. (Original) The ultrasound breast imaging assembly of claim 1, wherein said AMA comprises a plurality of rows of a plurality of ultrasound elements.

17. (Original) The ultrasound breast imaging assembly of claim 16, wherein at least one group of said plurality of ultrasound elements is selectively activated during an imaging procedure.

18. (Previously presented) The ultrasound breast imaging assembly of claim 1, further comprising an upright member supported by a base, and a swivel member that connects said at least one pivot assembly and first and second compression plates to said upright member, wherein said swivel member is configured to rotate said first and second compression plates through a plurality of imaging orientations.

19. (Original) The ultrasound breast imaging assembly of claim 18, wherein said plurality of imaging orientations comprise a cranio-caudal (CC) orientation and a mediolateral oblique (MLO) orientation.

20. (Original) The ultrasound breast imaging assembly of claim 1, wherein said ultrasound breast imaging assembly is configured to allow a patient to be imaged in a standard mammography position.

21. (Original) The ultrasound breast imaging assembly of claim 1, wherein one of said first and second compression plates comprises a sonolucent compression film, and wherein said ultrasound probe is configured to translate over said sonolucent compression film.

22. (Original) The ultrasound breast imaging assembly of claim 1, wherein one of said first and second compression plates comprises a sound absorbing stabilization plate.

23. (Original) The ultrasound breast imaging assembly of claim 1, wherein the first and second compression plates remain angled with respect to one another during the relative motion between said first and second compression plates, and wherein the angle between said first and second compression plates changes during the relative motion between the first and second compression plates.

24. (Currently amended) A breast imaging and display system comprising:

a central processing unit (CPU);

an imaging workstation in electrical communication with said CPU; ~~and~~

an ultrasound breast imaging assembly operatively connected to, and in electrical communication with, said CPU, said ultrasound breast imaging assembly comprising:

an upper compression plate;

a lower compression plate, wherein the planes of said upper and lower compression plates are angled with respect to one another;

a breast compression area defined between said upper and lower compression plates;

at least one pivot assembly allowing relative motion between said upper and lower compression plates while said planes of said upper and lower compression plates remain angled with respect to one another, said at least one pivot assembly being operatively connected to each of said upper and lower compression plates, wherein the angle between said compression plates changes during the relative motion between said first and second compression plates, wherein said at least one pivot assembly comprises upper and lower pivot assemblies, wherein said upper pivot assembly is operatively

connected to said upper compression plate, and said lower pivot assembly is operatively connected to said lower compression plate; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said upper and lower compression plates, said ultrasound probe being configured to translate over said one of said upper and lower compression plates.

25. (Canceled)

26. (Original) The system of claim 24, wherein one of said upper and lower compression plates remains in a fixed orientation with respect to the other.

27. (Original) The system of claim 24, wherein the upper compression plate moves relative to said lower compression plate by pivoting with respect to said lower compression plate over an arcuate path.

28. (Original) The system of claim 24, wherein said at least one pivot assembly comprises a spring member that connects said upper compression plate to said lower compression plate.

29. (Currently amended) The system of claim 24, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, said ~~upper compression plate being operatively connected to an~~ upper pivot assembly~~, which~~ is in turn positioned on an upper portion of said upright member, and said ~~lower compression plate being operatively connected to a~~ lower pivot assembly~~, which~~ is in turn positioned on a lower portion of said upright member.

30. (Currently amended) The system of claim 24, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, and said ~~upper compression plate being operatively connected to an~~ upper pivot assembly~~, which~~ is in turn connected to an upper extension plate, which is in turn translationally secured to said upright member.

31. (Previously presented) The system of claim 30, wherein said lower compression plate remains in a fixed orientation with respect to said upright member.

32. (Currently amended) The system of claim 30, wherein said ~~lower compression plate is operatively connected to a~~ lower pivot assembly~~, which~~ is in turn connected to a lower extension member, which is in turn translationally secured to said upright member.

33. (Original) The system of claim 30, wherein said upper extension member is perpendicular to said upright member, and wherein said upper extension member translates over said upright member.

34. (Original) The system of claim 24, wherein said upper and lower compression plates are configured to compress a breast in said breast compression area so that said probe may image the breast, and wherein said upper and lower compression plates remain angled with respect to one another during imaging of the breast.

35. (Original) The system of claim 24, wherein said upper and lower compression plates are configured to adequately contact the breast for imaging even though the breast is not substantially flattened.

36. (Original) The system of claim 24, wherein said ultrasound breast imaging assembly is used with an x-ray mammography system.

37. (Original) The system of claim 36, wherein said ultrasound breast imaging assembly is secured to a portion of said x-ray mammography system.

38. (Original) The system of claim 24, wherein said AMA comprises a plurality of rows of a plurality of ultrasound elements.

39. (Original) The system of claim 38, wherein at least one group of said plurality of ultrasound elements is selectively activated and deactivated during an imaging procedure.

40. (Previously presented) The system of claim 24, further comprising an upright member supported by a base, and a swivel member that connects said at least one pivot assembly and upper and

lower compression plates to said upright member, wherein said swivel member is configured to rotate said upper and lower compression plates through a plurality of imaging orientations.

41. (Original) The system of claim 40, wherein said plurality of imaging orientations comprise a cranio-caudal (CC) orientation and a mediolateral oblique (MLO) orientation.

42. (Original) The system of claim 24, wherein said ultrasound breast imaging assembly is configured to allow a patient to be imaged in a standard mammography position.

43. (Original) The system of claim 24, wherein one of said upper and lower compression plates comprises a sonolucent compression film, and wherein said ultrasound probe is configured to translate over said sonolucent compression film.

44. (Original) The system of claim 24, wherein one of said upper and lower compression plates comprises a sound absorbing stabilization plate.

45. (Original) The system of claim 24, wherein said CPU receives image data from said ultrasound probe and automatically analyzes said image data for at least one of lesions, cysts and microcalcifications.

46. (Original) The system of claim 24, wherein said image workstation comprises a monitor, wherein said CPU displays an ultrasound image on said monitor, and wherein said image is derived from said ultrasound probe imaging a breast.

47. (Original) The system of claim 46, wherein said CPU also displays an x-ray mammographic image on said monitor within close proximity of said ultrasound image.

48. (Original) The system of claim 47, wherein said ultrasound image is registered with said x-ray mammographic image.

49. (Original) The system of claim 46, wherein said ultrasound image is a representation of an individual ultrasound slice.

50. (Original) The system of claim 46, wherein said ultrasound image is a representation of a thick slice, wherein said thick slice comprises a plurality of individual ultrasound slices.

51. (Original) The system of claim 24, wherein said image workstation comprises a monitor, and wherein said CPU displays a CINE loop of a plurality of individual ultrasound slices on said monitor.

52. (Currently amended) An ultrasound breast imaging assembly comprising:

a first and second compression plates, said first and second compression plates being angled with respect to one another, one of said first and second compression plates comprising a sonolucent compression film, the other of said first and second compression plates comprising a sound absorbing stabilization plate; ~~and said ultrasound probe configured to translate over said sonolucent compression film;~~

a breast compression area defined between said first and second compression plates, wherein said first and second compression plates are configured to compress a breast in said breast compression area so that said probe may image the breast, and wherein said first and second compression plates remain angled with respect to one another during the compression;

at least one pivot assembly allowing relative motion over an arcuate path between said first and second compression plates, said at least one pivot assembly being operatively connected to each of said first and second compression plates~~, wherein said at least one pivot assembly is operatively connected to at least one of said first and second compression plates,~~ and wherein the angle between the first and second compression plates changes upon the relative motion between the first and second compression plates;

an upright member supported by a base, said first compression plate being operatively connected to a first pivot assembly, which is in turn positioned on a first portion of said upright member, said second compression plate being operatively connected to a second pivot assembly, which is in turn positioned on a second portion of said upright member; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said first and second compression plates, wherein said AMA comprises a plurality of rows having a plurality of ultrasound elements; and wherein said ultrasound probe is configured to translate over said one of said first and second compression plates.

53. (Original) The ultrasound breast imaging assembly of claim 52, wherein said at least one pivot assembly comprises a spring member that connects said first compression plate to said second compression plate.

54. (Canceled)

55. (Canceled)

56. (Original) The ultrasound breast imaging assembly of claim 52, wherein said second compression plate remains in a fixed orientation.

57. (Canceled)

58. (Canceled)

59. (Original) The ultrasound breast imaging assembly of claim 52, wherein said first and second compression plates are configured to adequately compress the breast for imaging even though the breast is not substantially flattened.

60. (Original) The ultrasound breast imaging assembly of claim 52, wherein said ultrasound breast imaging assembly is used in conjunction with an x-ray mammography system.

61. (Original) The ultrasound breast imaging assembly of claim 60, wherein said ultrasound breast imaging assembly is secured to a portion of said x-ray mammography system.

62. (Original) The ultrasound breast imaging assembly of claim 52, wherein at least one group of said plurality of ultrasound elements is selectively activated and deactivated during an imaging procedure.

63. (Canceled)

64. (Original) The ultrasound breast imaging assembly of claim 63, wherein said plurality of imaging orientations comprise a cranio-caudal (CC) orientation and a mediolateral oblique (MLO) orientation.

65. (Original) The ultrasound breast imaging assembly of claim 52, wherein said ultrasound breast imaging assembly is configured to allow a patient to be imaged in a standard mammography position.

66. (New) An ultrasound breast imaging assembly comprising:

first and second compression plates that are angled with respect to one another;

a breast compression area defined between said first and second compression plates;

at least one pivot assembly allowing relative motion between said first and second compression plates, said at least one pivot assembly being operatively connected to each of said first and second compression plates;

an upright member supported by a base, said first compression plate being operatively connected to a first pivot assembly, which is in turn positioned on a first portion of said upright member, said second compression plate being operatively connected to a second pivot assembly, which is in turn positioned on a second portion of said upright member; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said first and second compression plates, said ultrasound probe being configured to translate over said one of said first and second compression plates.

67. (New) An ultrasound breast imaging assembly comprising:

first and second compression plates that are angled with respect to one another;

a breast compression area defined between said first and second compression plates;

at least one pivot assembly allowing relative motion between said first and second compression plates, said at least one pivot assembly being operatively connected to each of said first and second compression plates;

an upright member supported by a base;

a swivel member that connects said at least one pivot assembly and first and second compression plates to said upright member, wherein said swivel member is configured to rotate said first and second compression plates through a plurality of imaging orientations; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said first and second compression plates, said ultrasound probe being configured to translate over said one of said first and second compression plates.

68. (New) A breast imaging and display system comprising:

a central processing unit (CPU);

an imaging workstation in electrical communication with said CPU;

an ultrasound breast imaging assembly operatively connected to, and in electrical communication with, said CPU, said ultrasound breast imaging assembly comprising:

an upper compression plate;

a lower compression plate, wherein the planes of said upper and lower compression plates are angled with respect to one another;

a breast compression area defined between said upper and lower compression plates;

at least one pivot assembly allowing relative motion between said upper and lower compression plates while said planes of said upper and lower compression plates remain angled with respect to one another, said at least one pivot assembly being operatively connected to each of said upper and lower compression plates, wherein the angle between said compression plates changes during the relative motion between said first and second compression plates;

an upright member supported by a base, said upper compression plate being operatively connected to an upper pivot assembly, which is in turn positioned on an upper portion of said upright member, said lower compression plate being operatively connected to a lower pivot assembly, which is in turn positioned on a lower portion of said upright member; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said upper and lower compression plates, said ultrasound probe being configured to translate over said one of said upper and lower compression plates.

69. (New) A breast imaging and display system comprising:

a central processing unit (CPU);

an imaging workstation in electrical communication with said CPU;

an ultrasound breast imaging assembly operatively connected to, and in electrical communication with, said CPU, said ultrasound breast imaging assembly comprising:

an upper compression plate;

a lower compression plate, wherein the planes of said upper and lower compression plates are angled with respect to one another;

a breast compression area defined between said upper and lower compression plates;

at least one pivot assembly allowing relative motion between said upper and lower compression plates while said planes of said upper and lower compression plates remain angled with respect to one another, said at least one pivot assembly being operatively connected to each of said upper and lower compression plates, wherein the angle between said compression plates changes during the relative motion between said first and second compression plates;

an upright member supported by a base;

a swivel member that connects said at least one pivot assembly and upper and lower compression plates to said upright member, wherein said swivel member is configured to rotate said upper and lower compression plates through a plurality of imaging orientations; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said upper and lower compression plates, said ultrasound probe being configured to translate over said one of said upper and lower compression plates.

70. (New) An ultrasound breast imaging assembly comprising:

a first compression plate and a second compression plate, said first and second compression plates being angled with respect to one another, one of said first and second compression plates comprising a sonolucent compression film, the other of said first and second compression plates comprising a sound absorbing stabilization plate;

a breast compression area defined between said first and second compression plates, wherein said first and second compression plates are configured to compress a breast in said breast compression area so that said probe may image the breast, and wherein said first and second compression plates remain angled with respect to one another during the compression;

at least one pivot assembly allowing relative motion over an arcuate path between said first and second compression plates, said at least one pivot assembly being operatively connected to each of said first and second compression plates, and wherein the angle between the first and second compression plates changes upon the relative motion between the first and second compression plates;

an upright member supported by a base;

a swivel member that connects said at least one pivot assembly and first and second compression plates to said upright member, wherein said swivel member is configured to rotate said first and second compression plates through a plurality of imaging orientations; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said first and second compression plates, wherein said AMA comprises a plurality of rows having a plurality of ultrasound elements; and wherein said ultrasound probe is configured to translate over said one of said first and second compression plates.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARIKHA S. MEHTA whose telephone number is (571)272-3248. The examiner can normally be reached on M-F, 8 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571.272.4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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